



PATENT APPLICATION

#9/Appeal Brief
Hawkins
10/9/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Docket No: Q67313

TANAKA, Toshinori, et al.

Appln. No.: 09/987,374

Group Art Unit: 2834

Confirmation No.: 6921

Examiner: Perez, G.

Filed: November 14, 2001

For: ARMATURE FOR A DYNAMO-ELECTRIC MACHINE

APPELLANTS' BRIEF ON APPEAL UNDER 37 C.F.R. § 1.192

Commissioner for Patents
Washington, D.C. 20231

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Sir:

Appellant submits this Brief, in accordance with the provisions of 37 C.F.R. § 1.192, in support of Appellants' Appeal of the final rejection of April 24, 2002, of claims 1-5. For at least the reasons set forth below, Appellants respectfully request that the Board reverse the final rejection of claims 1-5.

I. REAL PARTY IN INTEREST

The real party in interest is the assignee, Mitsubishi Denki Kabushiki Kaisha.

II. RELATED APPEALS AND INTERFERENCES

There are no other related appeals or interferences known to Appellant which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending Appeal.



AF/2834
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SUBMISSION OF APPELLANT'S BRIEF ON APPEAL

Commissioner for Patents
Washington, D.C. 20231

Sir:

Submitted herewith please find an original and two copies of Appellant's Brief on Appeal. The USPTO is directed and authorized to charge for the statutory fee of \$320.00 and all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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Mark R. Woodall
Registration No. 43,286

Date: September 24, 2002

III. STATUS OF CLAIMS

When the final Office Action was issued on April 24, 2002, claims 1-5 were pending in the application. In that Office Action, the Examiner rejected all of the claims. In particular, the Examiner rejected claim 1 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Aoki (U.S. Patent No. 4,532,449) in view of M. J. Baldwin (U.S. Patent No. 2,632,125) (hereinafter "Baldwin"), and claims 2 to 5 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Aoki in view of Baldwin, and further in view of Rabe (U.S. Patent No. 4,635,349).

IV. STATUS OF AMENDMENTS

All claim amendments were made prior to the final Office Action of April 24, 2002 (hereinafter "final Office Action"), and have accordingly been entered by the Examiner. In response to the final Office Action, Appellants filed the Notice of Appeal on July 24, 2002.

V. SUMMARY OF THE INVENTION

The present invention is directed to an armature for a dynamo-electric machine that prevents the occurrence of unbalanced currents flowing through brushes, which supply an electric current to coils of the armature. As shown in Figure 1, the armature 100 comprises a coil having a plurality of wires 103 which are simultaneously wound by a corresponding number of nozzles (not shown) onto a core 101 having four poles and twenty-two slots 102 to form a first group of coil portions 108-111. *See* Application page 5, line 31 to page 6, line 7. A second group of coil portions 112 115 are subsequently formed by again simultaneously winding a plurality of wires 103 onto the core 101 via the corresponding number of nozzles (not shown),

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except that the second group of coil portions 112-115 are wound offset by one slot with respect to the winding positions of the first group of coil portions 108-111. *See* Application page 6, lines 8-14. Figure 3 is a front elevation of the armature 100 with a coil 116 completely formed thereon by continuing to simultaneously wind the wires 103 while offsetting one slot at a time. *See* Application page 6, lines 15-17. A commutator 105 has twenty-two segments 104, which are connected to the wires 103. In addition, the segments 104 are electrically connected by equalizing connectors 106 (e.g., the first segment is connected to the twelfth segment).

VI. ISSUES

**Whether claim 1 is unpatentable under 35 U.S.C. § 103(a) over Aoki
(U.S. Patent No. 4,532,449) in view of Baldwin (U.S. Patent No. 2,632,125)**

**Whether claims 2 to 5 are unpatentable under 35 U.S.C. § 103(a) over
Aoki in view of Baldwin, and further in view of Rabe (U.S. Patent No.
4,635,349)**

VII. GROUPING OF CLAIMS

Appellant submits that claim 1-5 stand or fall together.

VIII. ARGUMENTS

As a preliminary matter, Appellant wishes to address the first paragraph on page 2 of the final Office Action, regarding the IDS submitted by the Appellant on November 14, 2001. Appellant notes that, as stated in the IDS, legible copies of each reference cited therein were provided, and considered by the Examiner, in the parent application. Nevertheless, since the

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Examiner refuses to consider those references in connection with the present application, absent duplicative copies, Appellant encloses herewith courtesy copies of the same.

Further, Appellant notes that 1) the Examiner returned an initialed copy of the IDS submitted in the parent, indicating that the English language foreign patent abstract reference cited therein, again cited in the IDS in the present application, has been considered by the Examiner; 2) all of the U.S. Patent references cited in the IDS in the present application were originally made of record by the Examiner's Office Actions in the parent application; and 3) the claims presented to the Board in this Appeal are identical to the claims pending in the parent application, and considered by the Examiner, at the time of the Office Actions dated December 5, 2000, and June 14, 2001.

For at least the foregoing reasons, Appellant respectfully submits that the IDS in the present application is in compliance with the requirements of 37 C.F.R. § 1.98(a)(2), and the other applicable requirements of the Rules, as filed on November 14, 2001. Thus, Appellant respectfully requests that the Examiner return to the Appellant an initialed copy of the form PTO-1449 filed with the Information Disclosure Statement on November 14, 2001, indicating that the references therein have been considered by the Examiner.

As a further preliminary matter, Appellant notes that a substantial portion of the prosecution history that gave rise to the present Appeal took place in the parent application, U.S. Application Number 09/266,606, filed on March 11, 1999, now abandoned. Therefore, to the

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extent Appellant refers herein to prosecution history not of record in the present case, that prosecution history may be found in the above specified parent application.

Claim 1 is patentable under 35 U.S.C. § 103(a) over Aoki in view of Baldwin, and claims 2 to 5 are patentable under 35 U.S.C. § 103(a) over Aoki in view of Baldwin, and further in view of Rabe

Independent claims 1-3 all recite, “coil portions formed by simultaneously winding wires” according to the claimed combination (emphasis added). In contradistinction, with reference to Figs. 9 and 10, Aoki teaches that each coil portion is a discrete and separate wire segment. *See* col. 5, lines 3-20. Aoki also acknowledges, with reference to Fig. 2, that the prior art teaches the formation of coil portions (l₅, l₄, l₃, l₂, and l₁) sequentially, not simultaneously.

In the Office Action dated December 5, 2000, the Examiner alleged that, “Aoki discloses . . . coil portions formed by simultaneously winding wires. . . .” In the Request for Reconsideration filed on April 5, 2001, Appellant disagreed with this characterization of that which is disclosed in Aoki for at least the above specified reasons. In the Examiner’s subsequent June 14, 2001 Office Action, the Examiner removed the word “simultaneously” from the Examiner’s characterization of that which is disclosed in Aoki. Thus, it is believed that the Examiner will now concede that Aoki does not disclose “coil portions formed by simultaneously winding wires” according to the claimed combination (emphasis added). Similarly, the Examiner has never alleged that either Baldwin, Rabe, or any other reference discloses “coil portions formed by simultaneously winding wires” according to the claimed combination (emphasis added).

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Therefore, Appellant respectfully submits that the Examiner has not set forth a *prima facie* case of obviousness with respect to claims 1-3, and with respect to claims 4 and 5 which depend therefrom, since no assertion is made by the Examiner that the references teach or suggest each and every limitation of those claims, and since the Examiner has not set forth a motivation for modifying the cited references to produce the claimed invention.

Furthermore, Appellant respectfully submits that, in fact, Aoki, Baldwin, Rabe, and the prior art of record, neither teach nor suggest “coil portions formed by simultaneously winding wires” according to the claimed combination (emphasis added). Thus, were such an assertion made, Appellant believes that it would be a mischaracterization of the reference or references of record. Rather, Appellant asserts that none of the references cited, Aoki, Baldwin, and Rabe, nor the prior art of record, teach or suggest “coil portions formed by simultaneously winding wires” according to the combination as claimed in each of independent Claims 1-3 (emphasis added).

The Examiner appears to concede that none of the references of record discloses this limitation of the claims. Rather, the Examiner's justification for the rejections appears to lie in the Examiner's assertion that no patentable weight should be given to the above-referenced claim limitation. Thus, in the Office Action dated June 14, 2001, the Examiner states that, “[r]eferring

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to claims 1-5, no patentable weight has been given to the method of manufacturing limitations (i.e. 'a plurality of coil portions are formed simultaneously'").¹

In support of this position, the Examiner quotes *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Appellant respectfully asserts that the Examiner's refusal to give patentable weight to the recitations of "simultaneously winding" according to the combination as claimed in independent Claims 1-3 is improper.

First, as the Examiner recognizes in the quotations contained in the first paragraph on page five of the June 14, 2001 Office Action, *In re Thorpe* applies to product-by-process claims. Claims 1-3 are not product-by-process claims. Rather, they are common product or apparatus claims including functional limitations. On this basis alone, the Examiner's refusal to give patentable weight to the pertinent functional limitations is improper.

However, the MPEP clearly recognizes that functional limitations must be given patentable weight. *See* M.P.E.P. § 2173.05(g). In fact, the MPEP mandates that, "[a] functional limitation must be evaluated and considered, just like any other limitation of the claim. . . ." *Id.* Further clarifying this rule governing the Examination of functional limitations in apparatus claims, the MPEP states that, "[a] claim to a device, apparatus, manufacture, or composition of matter may contain a reference to the process . . ." (emphasis added). M.P.E.P. §2173.05(p) at I.

¹ Appellant notes that 1) the alleged claim language quoted by the Examiner is not an accurate quotation from the claims under the Examiner's consideration at the time of the June 14, 2001 Office Action, ... (footnote continued)

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Conclusion

For at least the foregoing reasons, Appellant respectfully requests that the Board reverse the prior art rejections of claims 1-5.

The present Brief on Appeal is being filed in triplicate. Unless a check is submitted herewith for the fee required under 37 C.F.R. §1.192(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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Date: September 24, 2002

and 2) the currently pending claims are identical to the claims as pending at that time.

APPENDIX

CLAIMS 1-5 ON APPEAL:

1. An armature for a dynamo-electric machine comprising:

a shaft;

a core, secured to said shaft, having a plurality of slots extending in an axial direction formed on an outer circumferential surface of said core;

a coil comprising a plurality of coil portions formed by simultaneously winding wires a plurality of turns around a pair of said slots separated by a predetermined number of said slots and offsetting each of said coil portions in the circumferential direction of said core, wherein at least one pair of adjacent coil portions share a common one of said slots;

a commutator secured to said shaft, said commutator comprising a plurality of segments;
and

a plurality of equalizing connectors for permanently electrically connecting pairs of said segments that should have the same electric potential, so that each of pairs of said coil portions that should have the same electric potential has a substantially equal electrical potential.

2. An armature for a dynamo-electric machine comprising:

a shaft;

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a core, secured to said shaft, having a plurality of slots extending in an axial direction formed on an outer circumferential surface of said core;

a coil comprising a plurality of coil portions formed by simultaneously winding wires a plurality of turns around a pair of said slots separated by a predetermined number of said slots and offsetting each of said coil portions in the circumferential direction of said core, wherein a number of vacant slots between adjacent said coil portions is nonuniform;

a commutator secured to said shaft, said commutator comprising a plurality of segments;
and

a plurality of equalizing connectors for permanently electrically connecting pairs of said segments that should have the same electric potential, so that each of pairs of said coil portions that should have the same electric potential has a substantially equal electrical potential.

3. An armature for a dynamo-electric machine comprising:

a shaft;

a core, secured to said shaft, having a plurality of slots extending in an axial direction formed on an outer circumferential surface of said core;

a coil comprising a plurality of coil portions formed by simultaneously winding wires a number of turns around a pair of said slots separated by a predetermined number of said slots and

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offsetting each of said coil portions in the circumferential direction of said core for a plurality of laps, wherein the number of turns of said wires in said coil portions in an initial lap is different from the number of turns of said wires in subsequent laps;

a commutator secured to said shaft, said commutator comprising a plurality of segments;
and

a plurality of equalizing connectors for permanently electrically connecting pairs of said segments that should have the same electric potential, so that each of pairs of said coil portions that should have the same electric potential has a substantially equal electrical potential.

4. The armature for a dynamo-electric machine according to claim 3, wherein the number of turns of said wires in said coil portions in said initial lap is less than the number of turns of said wires in said coil portions in said subsequent laps.

5. The armature for a dynamo-electric machine according to claim 3, wherein the number of turns of said wires in said coil portions in said initial lap is greater than the number of turns of said wires in said coil portions in said subsequent laps.